

37770



PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

John C. Mears, et al.

Serial No.: 09/400,320

Filed: September 21, 1999

For: A CONTACT CENTER SYSTEM
CAPABLE OF HANDLING
MULTIPLE MEDIA TYPES OF
CONTACTS AND METHOD
FOR USING THE SAME

Customer No. : 001609

Group Art Unit: 2642

Examiner: TIEU, Benny Quoc

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

DECLARATION UNDER 37 C.F.R. § 1.131

Sir:

The undersigned hereby declares as follows:

1. The entire interest in the above-captioned application is assigned to Microlog Corporation. The assignment was recorded on January 16, 2001 at Reel 01143 and Frame 70351.

2. I am a Vice President of Microlog Corporation and have the capacity, as an officer of the company, to sign this declaration on behalf of the assignee.

3. The present invention was conceived prior to the effective reference date of U.S. Patent No. 6,263,066, to Shtivelman et al (i.e., June 11, 1998) as indicated by Appendix A, which is an internal white paper of the company initially prepared January 27, 1998. The single multimedia queue of the present invention is proposed by the assignee in this white paper (e.g., see pages 30 and 31 of Appendix A).

4. Initial design of the present invention led to the preparation of the drawings on pages 68-70 of Appendix B, which was presented at a Board of Directors meeting for Microlog Corporation on February 17, 1998.

5. The present invention was referred to as "uniQue" (pronounced "U-knee-Q") and presented in a Call Center Solutions Business Case document presented to the Board of Directors of Microlog Corporation on March 31, 1998 and provided herein as Appendix C. A table of contents and copies of the relevant pages are provided herein. The remaining pages are company financial plans and related documents that are confidential and have therefore been omitted. The attorney for applicant, however, will make the entire document available for the Examiner's review at his request.

6. An internal company document dated June 1998 and provided at Appendix D indicates additional development of a uniQue toolkit for the agent desktop that is JAVA based (e.g., see pages 11-16 of the document provided at Appendix D).

7. Appendix E is the product development plan for developing and implementing the uniQue™ product from the second quarter of 1998 through the third quarter of 1999. The product development plan was provided as part of the Project Plan section commencing on page 42 of Appendix C. The agent was actually reduced to practice and demonstrated at the trade show on September 23, 1998. As stated in the Declaration under 37 C.F.R. 1.131 filed on February 28, 2003, uniQue™ product and uniQue™ Agent product were announced at a trade show on September 23, 1998, as indicated in press releases provided as Exhibits A and B for the Declaration under 37 C.F.R. 1.131 filed on February 28, 2003. The assignee filed the above-captioned application on

September 21, 1999. As indicated in a memorandum (see Appendix F) to the attorney's file for Attorney's Docket No. 37770, John Mears, former President and CEO and Chief Technology Officer of Microlog Corporation, contacted an attorney for the assignee on March 11, 1999 to request deferring preparation and filing of the application until September 21, 1999 because the assignee did not have personnel available to assist with the patent application while the product was being readied for commercial release in accordance with the timeline set forth in the product development plan of Appendix E.

8. The uniQue™ product was actually reduced to practice and demonstrated at the CTIT™ EXPO Spring '99 in Washington, D.C. on May 25 and 26, 1999, as indicated at Appendix G.

The declarant further states that all statements made herein of his own knowledge are true, and that all statements made herein on information and belief are believed to be true, and that all such statements are made with the knowledge that willful false statements and the like are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that any such willful false statements may jeopardize the validity of this application or any patent resulting therefrom.

Oct 6, 2005
Date

Charles B. Ford Jr.
Charles B. Ford Jr.
Chief Financial Officer
Microlog Corporation

Appendix A: Concept of Operations

Multi-Media Call Center Concept of Operations

1/27/98

Revised 2/8/98, 2/12/98

This white paper is intended to shape thinking, solicit team commentary, inform, and convince others of the viability of a new call center concept. A way to understand this more thoroughly is to describe the need and then to describe how the solution would work -- through a description of the concept of operations (CONOPS). This CONOPS will discuss the problems in the operation of the call center, give Microlog's approach to solving these problems including the value proposition, and provide a descriptive narrative on the resultant call center operations including the handling of the major media types that customers of the call center will use to contact it.

What is the customer's problem?

The customer in this case is the company in need of the call center. Its buyers are typically a call center manager, a telecoms manager, or a line business manager with customer support responsibility. The company has a product or service portfolio that requires regular interaction with their customers. Because of the pressure to improve efficiency and productivity, reduce cost, and improve customer service, while rapidly responding to the changing product portfolio, the labor and capital intensive call center is a natural focus. In its position as the very sensitive first point of contact for many customers of the business, it is viewed as an essential part of most business processes, not only satisfying the need to "answer the phone", but also providing important feedback on market trends and specific customer needs. This means that the company is very directly dependent on the skills of the call center agents, the efficiency of the center infrastructure, and on the administrative and data reduction tools available to execute the mission. Many times the call center agents require specialties or skills necessary to the job. They acquire these skills through training, experience, or through intelligent prompting by their tools. Getting the right skills applied to a

customer's problem is the best way to achieve efficiencies in the most critical element of the call center -- the human element.

Because the capital costs of a call center can be quite high (e.g. in the purchase of a dedicated PBX or ACD, computer servers for the business applications accessed, workstations and phones for every agent, LANs, and much software and system integration), there is a need to limit transaction times. Longer transaction times drive the need for more capacity, higher recurring costs, and/or higher labor costs. For example, in a first shift, 100 agent operation, operating at a capacity factor near 1 with an average call duration of 5 minutes, a 20 second savings per call means that 136 more calls could be taken, or 1.4 agents effort could be saved. Without this efficiency increase, achieving the same increase in capacity requires the addition of 1.4 more agents, workstations, lines, training classes, and all the rest of the supporting structures and expenses, both non-recurring and recurring.

Another element of inefficiency is in the additional overhead associated with dealing with non-interleaved multi-media customer contacts. In most cases, the skills required to answer a phone call are the same ones required to respond to an e-mail request (perhaps with the exception of being able to write in addition to speaking). However, current call center operations either assign dedicated staff to answering e-mails, with some associated redundant training and facilities expense, or they set aside certain times of the day when phone agents are assigned to e-mail duty, with associated context switching inefficiencies. Again, it is possible to calculate approximate costs associated with this type of operation vs. an ideal interleaved multi-media approach.

However, this still doesn't account for the uneven or unreliable response times perceived by the end customer using both e-mail and voice, nor does it allow customer class of service distinctions between the two media types. For instance, a "Gold" customer writing an e-mail should receive preference over a regular customer phoning in. While class of service distinctions are proven means of retaining favored customers, this ability is more difficult to quantify in terms of real dollar value.

What is Microlog proposing to solve this problem?

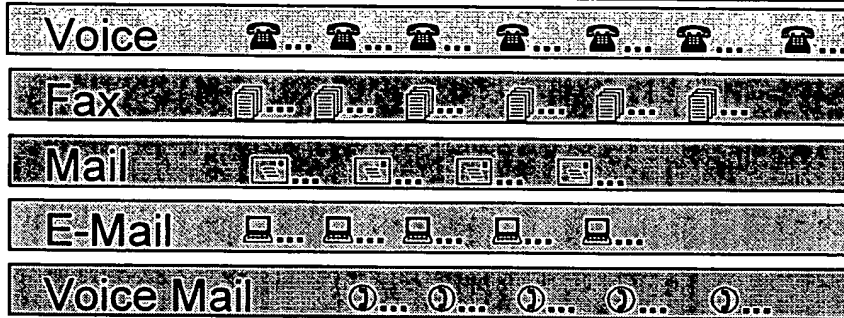
Let's focus on just voice calls and e-mail as example media types for simplicity, since incorporating the other media types is conceptually easily done by extension. In the multi-media call center implementation of interleaved phone calls and e-mails, phone calls and e-mails may be routed to the correct agent in accordance with their skills, their work load, and the service level appropriate to the customer contact. No large amount of context switching is required of the agents, and the skills and training they have used for problems communicated by either medium are readily portable. From a customer perspective, their requests will be handled in accordance with the priority that their business and service levels dictate (e.g. "Gold" customers who write e-mails can get a response more rapidly than "regular" customers who phone in, for similar issues with similar required agent skills).

In responding to contacts from customers, no matter what the media type might be, the agent will have flexibility in how they respond to the contacts. In some cases, the customer may specify how they wish to be contacted (e.g., they write an e-mail, but request a call-back). In other cases, the agent must decide how best to respond (e.g., they get an e-mail, but must call the customer to discuss additional details before they can respond on e-mail). The MM call center system must accommodate this desired flexibility, and in as many cases as possible, facilitate automation of rapid responses (e.g. present a "dial the customer button" as an option while an e-mail response is being composed).

Microlog proposes to solve the multi-media interleaving problem by means of a media routing server and associated business logic engine. This server will be additive to, and interface with, the most popular existing systems (like ACDs, e-mail, fax servers, IVRs, hardcopy scanners, and voice mail). The system will be open and modular, since existing "un-PBX" offerings require wholesale replacement of existing critical systems. Using Microlog's strengths in integration services and back-end and PBX interfacing, we can provide value to customers without requiring a "heart transplant" in the customer's call center - one of the key reasons the un-PBX players have only achieved 1% penetration to this point. This allows customers to preserve the best of their existing environment ("do not take away my cc:Mail!") or non-depreciated investment (e.g. switch and CTI interface).

The following figure shows conceptually how customers handled their media in the past, and how they'll handle it with multi-media interleaving.

Historically: multiple queues by media



Now: single multimedia queue

Multiple media are becoming multimedia



Also important to the value proposition is the ability to easily manage the multimedia call center. The solution must include tools that allow a call center manager to easily specify the desired handling and routing of each media contact, and to view statistics associated with each contact type. The call center manager needs to be able to set business rules for contact handling based on what type of call center it is, and on what type of customer or contact method is presented. As well, they'd like to be able to do this in a modular and expandable way, first handling voice, then adding e-mail, then adding web, and so forth as their need evolves. They need to be able to do all this just as easily as they do it today with voice calls only.

Microlog's value proposition is not only based on qualitative improvements in media handling and retention of openness, modularity and customer choice, but also on real tangible savings. As discussed before, real time savings per transaction are part of the means by which an overall business case may be structured. It should be relatively easy to structure a business case on a customer basis to justify the value of a given call center improvement, assuming that we know our quantitative savings and we know something of the customer's operational statistics. Microlog did this for APRS, Microlog did this for TAC, and Microlog must and can do this for call centers. We all know that this can be a very effective technique to express the value proposition and to help customers

structure their own business cases. This will be an action in the implementation phase of Microlog's pursuit of this business.

The Users of the Call Center

The customer of a call center is typically someone who is trying to contact the company to conduct business related to sales, support, information, or accounts payable. The methods by which the customer is trying to contact the center include the traditional phone, Internet e-mail, Web form filling, fax, hardcopy mail ("snail-mail"), Web call-back and Internet telephony. For the moment, we'll leave the treatment of screen-phones and video to another discussion, based on their low penetration. Also, for the moment, we'll defer discussion of the perspectives of the different user types until after establishing the basic concepts. Then we'll elaborate on their unique perspectives and operational needs, to the extent not covered in the basic concepts. Let's look at the ways people contact the call center.

Traditional Phone

In this case, customers call into a published number for the service they are trying to receive. While phone calls may be handled by different call centers in many different ways through many different paths, let's pick one typical one and elaborate on it. Customers calling are either put into an Automated Call Distribution (ACD, a switch type or feature of a PBX) queue awaiting the next available agent (who is determined either by dialed number (DNIS) or caller-ID (ANI) or both, in conjunction with agent availability), or are greeted by an automated attendant which may be furnished by a voice response unit (VRU) like our Intela product. In this latter case, the customer can access information directly through the VRU, either in a pre-packaged audiotex form, or through traditional interactive voice response (IVR) host interaction. The customer may be further qualified by the VRU script, either to determine criteria for more complex skills-based routing, or because there isn't available ANI or DNIS information upon which such decisions may be made. Assuming that suitable skills-based criteria can be collected by whatever means, if the customer then needs to speak to an agent, the system knows what agent queue in which the call needs to be parked. Assuming all agents are busy in the queue, the VRU either needs to announce the queue status and estimated time to call answer, or present the caller with an option to leave a message. If this latter option is selected, either the caller's ANI must be

retained, or the caller needs to be prompted to enter their phone number for a return call. In this case, the caller should be provided with an estimate of when their call will be returned. Then, the caller's voice message needs to retain its rightful place in the ACD queue, as if the caller were still waiting on the line. The message is to be played to the next available agent, as if it were a live phone call, and a screen pop is to be displayed to the agent, giving the caller's account information, including the phone number to which a return call is to be directed. The agent is offered the option of automatically placing the return call, if appropriate, or responding in another way requested by the customer (e.g. e-mail, voice-mail, or fax).

Internet e-Mail

Many customers have adopted e-mail as one of their major means of communications with others with whom they wish to do business. The reason for this is the asynchronous nature of the communication - you don't have to wait real-time in a queue for a response, as in a phone ACD queue. You can write an e-mail, send it off, do something else, and get a response at a later time. You consider the response to be appropriate if it is timely and effectively addresses the original e-mail you wrote - as effectively as if you had spoken to the right person via the phone. In addition, e-mail has the advantage that it is self-documenting, and may have multi-media attachments to illustrate the response, convey further information, or rapidly supply product such as software, documentation, or manuals.

There are two major mechanisms by which customers will contact a company via e-mail. First is through a more traditional published e-mail address, like `SUPPORT@MLOG.COM`. Second is through an e-mail form filled out from a Web page for the company. The form submission generates an e-mail request, perhaps even to the same published address. For the former technique, requests tend to be free-form in nature, and pre-processing is rendered more difficult. For the latter, the layout and content of the form forces the customer to provide more specific and structured information, allowing easier pre-processing for functions such as skills-based routing of the e-mail, and/or special servicing of certain classes of customers. Either way, an e-mail pre-processor (like a text profiler) contains the criteria for routing, and checks the text of the e-mails or the form fields for matches of keywords and customer data to trigger the proper routing.

In many company operations today, the people dealing with phone calls and those dealing with e-mail are often two separate groups, or they can be the same people, but allocated to each separate task at different times of their shifts. This set-up can be inefficient in terms of time allocation, training costs, skills acquisition, or ultimate customer response times achieved. This situation can be mitigated by the MM call center by allowing the same people to handle both phone calls and e-mail responses in an interleaved and prioritized fashion.

This implementation of interleaved phone calls and e-mails requires that the MM call center system automatically routes the phone calls and e-mails in accordance with which agent is next available, which agents have the required skills to most efficiently address the contact, and whether the customer is a priority ("Gold") customer or not. This means that the concept of operations of a "normal" call center - in which a "screen pop" of the customer information is presented on the agent workstation (via the customer contact or business application) simultaneous with the call ringing the agent's phone - must change to accommodate an incoming e-mail presented at the agent's desktop, instead of the phone's ringing with the next call. This implies that phone system must be controlled so that no new phone calls are distributed to the agent while he is handling the e-mail.(or other non-phone) response. The e-mail window is presented to the agent, along with the customer contact application or business application, filled in with the customer information (if possible).

In replying to e-mails with e-mail, the agent has to decide whether the reply is to come from "SUPPORT@MLOG.COM", or from their personal e-mail. If they choose to reply from their personal ID (as is the case with longer-term support issues), provision needs to be made for dealing with these cases "outside" the queue. This is not dissimilar to the case where a support person actually gives out their personal phone extension to select customers. This capability is usually reserved for the very senior agents, and has the consent of their management.

Fax

Many businesses also publish fax numbers, often for order entry or comment solicitation. In some cases, the fax is of a completed form, often provided in a magazine or through a Web page print-out. The challenge is to treat the fax as if it

is an e-mail or phone call, prioritized and allocated to agents in accordance with the contact routing criteria. The fax server will therefore have to "feed" the multi-media system, and faxes will have to pass through an optical character recognition system (OCR) to capture enough of the content and customer information to provide a reasonable input to the routing software. It is also possible that the ANI from the customer's fax machine could be captured and used as a means of routing, similar to that associated with regular phone calls. Beyond this, the same routing criteria associated with an e-mail may be applied in distributing a fax to an agent's desktop, with the exception that the fax will be presented as an image file in the screen pop the agent gets (vs. a text file in the case of e-mail).

Other than this last detail, the concept of operations associated with a fax response is exactly the same as for an e-mail - it is another media type to be interleaved with phone calls delivered to the agents. However, as with all media types, the response type the agent chooses may be different from the type the customer used for the initial contact. For instance, the customer may fax a form in, but request to be contacted by phone. Or, the customer may simply request a fax confirmation back, or request e-mail instructions for clarification.

Hardcopy Mail

Hardcopy mail is another media type which is often handled by another group within companies, distinct from the call center agents. If the skills of the call center are to be applied here, hardcopy mail must be interleaved with phone calls and all the other media types in an orderly fashion. In order to do this most efficiently and under computer control, the hardcopy mail must be scanned in. This has advantages in terms of storage in addition to the automation possibilities. (For example, USAA, a large insurance firm, went to image scanning and storage for letter correspondence just to eliminate the warehouses of hardcopy storage they once had. Likewise, they went to digital recording for depositions to eliminate the cassettes they once kept in the same hardcopy files.) Once scanned, the same pre-processing associated with faxes may be used, generating an appropriate profile for routing to an agent. Again, the screen pop the agent gets is the image file of the letter as well as the customer contact application with the customer record filled in (if possible). Response options include not only phone, fax and e-mail, but also hardcopy mail, generated by the call center agent, and routed to a printer in the mail room for folding, stuffing, metering, and mailing.

Web Call-Back

The Web is not only a way of advertising, but also a way of presenting information to their customers as a very attractive alternative to phoning a call center. For instance, many software and PC hardware companies have posted frequently asked questions (FAQs) on their Web pages as a way of off-loading repetitive calls to their call centers. This has the effect of multiplying the efforts of the people staffing the call centers, freeing them for the more difficult customer contact situations. Many of us have used "FAQs" on the Web, and find them to be very useful.

However, there are also many cases where, for sales or support reasons, we'd like to give customers the option to request a call back from the company. If the Web page presents a "call-me" button on each page in which this context makes sense, this can be readily done. The call-me button brings up a form for the customer to fill in, and the request is prioritized and routed based on the customer information provided.

When the call-me request is actually routed, the appropriate call center agent gets a screen pop of the Web page the customer was browsing at the time he pushed the call-me button, and the contact application or business application with the customer information filled in is presented in another window. The agent reviews the information on the screen as the call is placed for him. The customer answers the call and the rest of the processing is similar to the standard inbound scenario.

Internet Telephony

Although standards in the IP telephony area are evolving, a Web-based Java applet download of an IP soft telephone is a way that a company can assure that people wishing to make Internet telephony calls into their call center may do so - without worry about compatibility of soft phones. The customer value here is that no extra phone line is needed to allow browsing of a company's Web site while simultaneously calling with a question about ordering one of their products or soliciting information about the Web page.

Similar to the "call-me" button, the Internet phone button brings up a form the customer fills in about his interest (optional). Submitting the form causes a download to the customer's browser (assumed to be Java enabled) of a Java applet which uses the customer's PC-based microphone and speakers to effect a speakerphone function. The Internet phone "calls" into the call center, and the form information, along with the Web page URL (Universal Resource Locator or "address"), are used to determine the routing to an agent. The next available agent with appropriate skills is selected and an Internet phone server, interfaced to the ACD on the station side, places a call to the agent. This is done simultaneously with popping the Web page for the same URL the customer was browsing, along with the contact application or business application in a different window, if the customer exists already in the database.

At this point, the customer and the call center agent can converse about the Web page, conduct transactions in the contact or business application, and the agent can conference, confer, or do a coordinated voice/data transfer to another agent, just as if they were operating in a plain old telephone call center environment. The one additional desirable feature is to allow the agent to "push" Web pages to the customer while they are talking. This way, they can not only discuss things, but the agent can *show* things to the customer, all in the context of the conversation.

The Customer's Perspective

From the perspective of the person trying to get information or contact the business, they want to receive the information or conduct the transaction as rapidly and as effectively as possible, with a consistently reliable response regardless of the medium used to make the contact. The promise of the company is that the customer has a choice of media types, and the company will be responsive regardless of the media type. Effective use of the MM call center technology means that information, once gathered, is not required of customers multiple times, and customers are treated as if they are a "market segment of one" - as unique as the information which is used to identify them and perform routing to agents in the call center. A positive experience in interaction can make the difference in retaining old customers and acquiring new ones....

The Call Center Agent's Perspective

The call center agent in the MM environment knows that they won't only be trusted with customer contacts on the phone, but with all types of customer contacts that relate to the skills they have to offer people. Their skills will be applied more widely, and their work won't ever be the same, call after call. They will require additional training on handling the different media types, and they will have to handle multiple windows on their PC desktop. Even with additional training, the system will be required to provide context-sensitive help in usage of the MM features, as well as to provide intelligent help for the application the agent is driving with the customer (e.g., sales scripts, problem determination trees, answers to questions). The agent needs to be able to log in, to go on break, to make, transfer, confer, and conference calls, to (optionally) go into wrap-up mode to finish documentation at the end of a call, and to end a call. They need to be able to write and send faxes, to write and send e-mails (both from public and private IDs), and (optionally) to be able to push Web pages. In addition, for certain transactions (e.g. brokerage, insurance, legal or medical), the agent would like to push a button and have the conversation digitally recorded (until the agent stops it by pushing another button) and stored with the customer's records.

Getting or training agents with ALL the required MM skills could be difficult. Some people can talk, but they can't write effectively. The system needs to account for this by routing different media types to different agents - even if the skills-based algorithm says that they are qualified for the media content.

The Call Center Manager's Perspective

The call center manager now has additional scope of responsibility, but then the call center itself has turned from a grudging necessity, in some cases, into a strategic and essential business tool. The call center now becomes a major hub of customer interaction and feedback, the essence of which can determine tactical and strategic corporate direction. The manager therefore needs a powerful set of tools with which to manage this critical business center. The manager needs to be able to add and delete agents to and from the overall agent pool. The manager needs to easily define skills and routing criteria to the system for every agent, for every media type which is enabled in the system. He needs to be able to add media types to his server farm and agent desktops as his need for new media types grows beyond simple phone calls. He has to be able to monitor phone calls and desktop interactions for each agent, real time, one at a time. He has to be able to see real time statistics for the number of agents on-line, the queue for each media type, the response times for each agent, and the average and long response times for each media type. He needs to see agent utilization, overall and by shift, so he can project staffing needs. He needs the MM equivalent of a CDR (Call Data Record) log. And, he needs to be able to define extensions vs. LAN address, vs. e-mail ID for each agent position. In addition, whatever the advanced functions may be for the new call center, they have to work, and work reliably, up to and including 24 hours a day, 7 days a week.

The Line-of-Business Executive Perspective

The line-of-business expects that a call center will be the means by which additional sales are made, customer problems are resolved and satisfaction increased, necessary information is disseminated, and accounts receivables are reduced. The measurables become the revenue per call center agent per unit time, problems resolved per unit time, satisfaction index for a given period, and \$ collected per unit time vs. expense to collect it.

Synergies

An example of lack of synergy is given in the example of my own experience in trying to order TurboTax this year. They sent me a post card with my name pre-printed on it with an account number, obviously from my orders of previous years. I called the Intuit call center number given, and quickly discovered that there was no link between their customer database/mailling list and their sales/order operation in the call center. I had to repeat all my address information unnecessarily. The call center failed to exploit the data at hand to make my order experience efficient and satisfying. I was left with a less than positive impression of a "high technology" company.

On the pro-active positive side, an example of synergies that could be exploited would be in the area of frequently asked questions. Keeping a database of these questions could facilitate audiotex additions, Web site FAQs, and cut-and-paste e-mail, snail-mail, and fax-mail responses. Likewise, keeping a log of frequent customer requests could easily be used to spot market trends and to shape next product or service releases.

The realization of these synergies and many others to be discovered may be dependent on the more complete integration of customer communications media types through the call center agents- as in this MM call center CONOPS. Separately dealing with voice, e-mail, fax and hardcopy is a prescription for suboptimizing synergies, skills, and load balancing vs. time. From the standpoint of businesses and government agencies under pressure to do more with less while increasing levels of customer service, the pressure - to acquire call center solutions that accommodate multiple media types and realize significant synergies - will be intense.

Summary

This CONOPS has described the problems of existing call centers, the proposed Microlog solution to those problems, and the concept of operation of a MM call center. Microlog possesses skills in complex system integration and IVR applications that are directly applicable to the MM call center market. In addition, Microlog has an approach to the solution that interleaves the media contact types, reduces complexity, facilitates management, and is modular, open, and extensible. We believe that we can make an attractive value proposition in this market, and that the growth opportunity warrants the effort to focus on it for our future direction.

MICROLOG
CORPORATION

Microlog Strategy Development

Board of Directors Update

February 17, 1998



Agenda



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- Executive Summary
- Call Center Market Overview
- Opportunity Screen
- Multimedia Opportunity
 - Customer Need
 - Market Size
- Fit for Microlog
- Investment Strategy and Implications
- Next Steps
- Plan Overview
 - Sales and Marketing
 - Technology
 - Financial
- Appendix

Executive Summary

Proposed Strategy - What We Will Do

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Targeted Customer Problem

- Call Centers currently have no effective means to manage multimedia contacts and interactions with their customers
 - Excessive costs
 - Inconsistent quality of service levels
 - Inability to maintain “control” of the customer contact

Proposed Microlog Value Proposition

- Microlog will provide a turn-key integration solution for Call Centers including easy-to-use, quality tools to enable Call Center Managers to prioritize and control the routing of customer contacts, independent of their media
- This results in cost savings by optimizing the most expensive asset a call center has -- its people, while improving its responsiveness to its most important asset -- its customers

Multimedia Opportunity

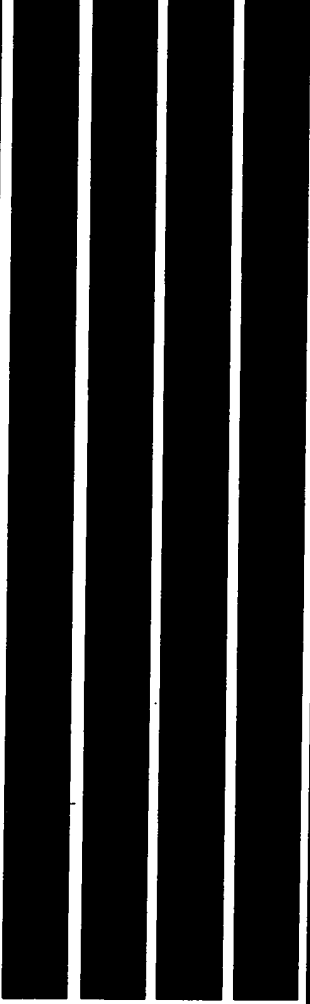
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Call Center Management Challenge - Integrating Media

- Current media streams are managed independently with separate agent pools, manual processes, and little coordination.

Historically: multiple queues by media

Voice



Now: single multimedia queue

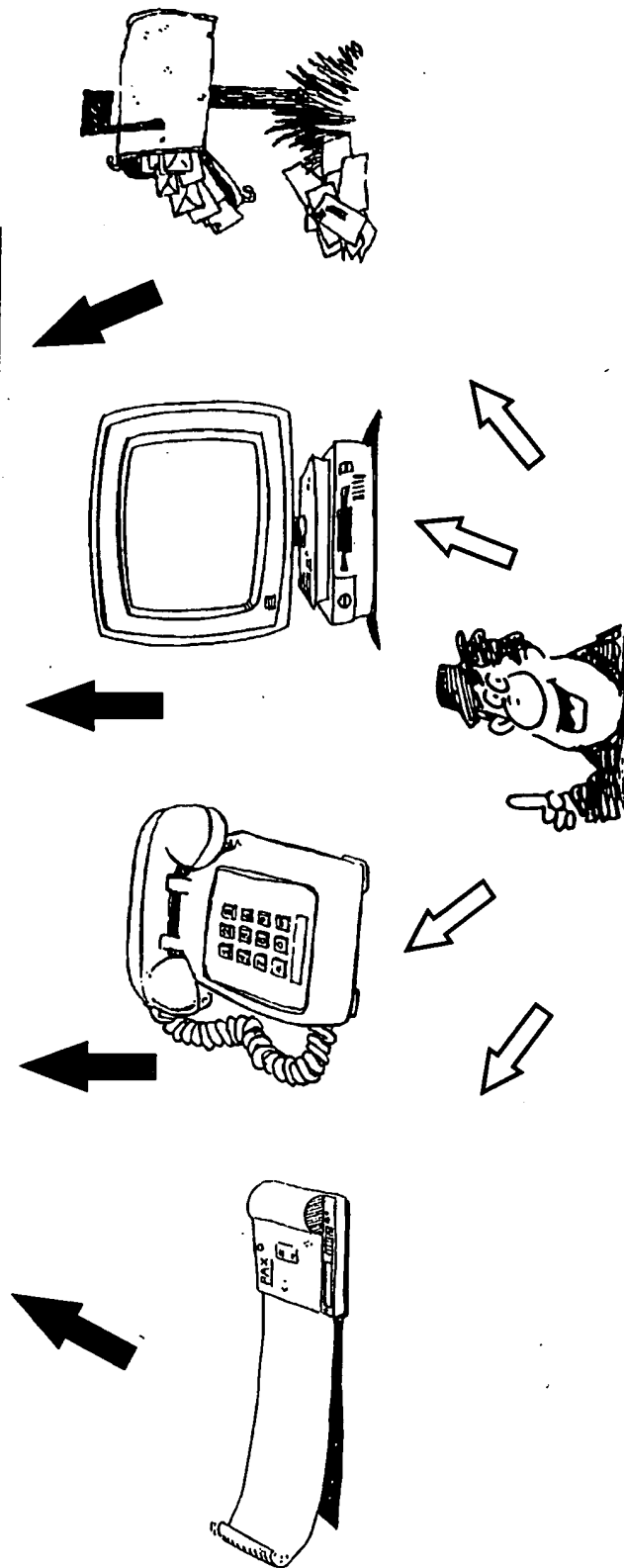
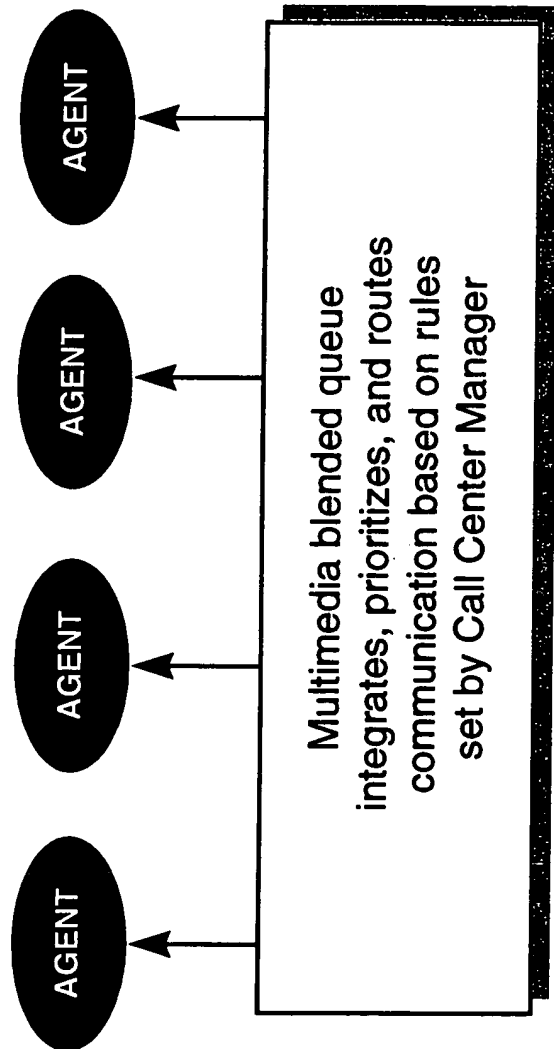
Multiple media are becoming multimedia



- Future media handling will integrate communications into one stream

Multimedia Opportunity

Future Multimedia Handling



Multimedia Opportunity

Proposed Solution

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Provide easy-to-use tool to enable Call Center Managers to:

- Prioritize and establish routing rules (and easily modify them) from an integrated single queue comprised of multi-media messages (fax, e-mail, images and voice)

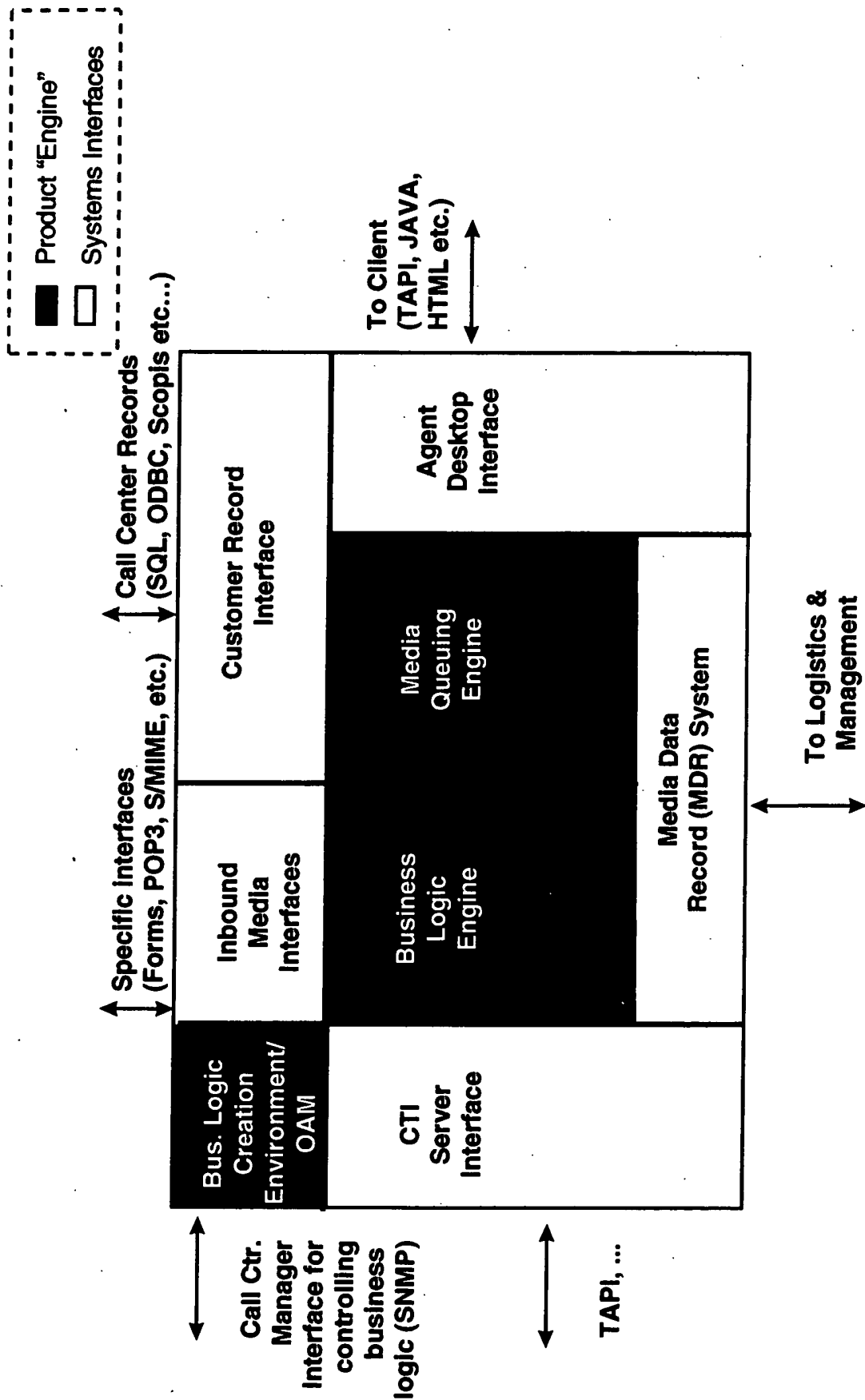
Microlog will provide a complete solution for Call Center managers

- We will integrate existing legacy systems as deemed appropriate, and architect a solution based on open standards - allows additional capabilities without wholesale replacement of systems

Technology Overview

Microlog Multimedia Product Definition

- The business logic and media queuing engines are the core of the multimedia server. Interfaces with key components in the Call Center system ease integration



Contact is Received and Processed

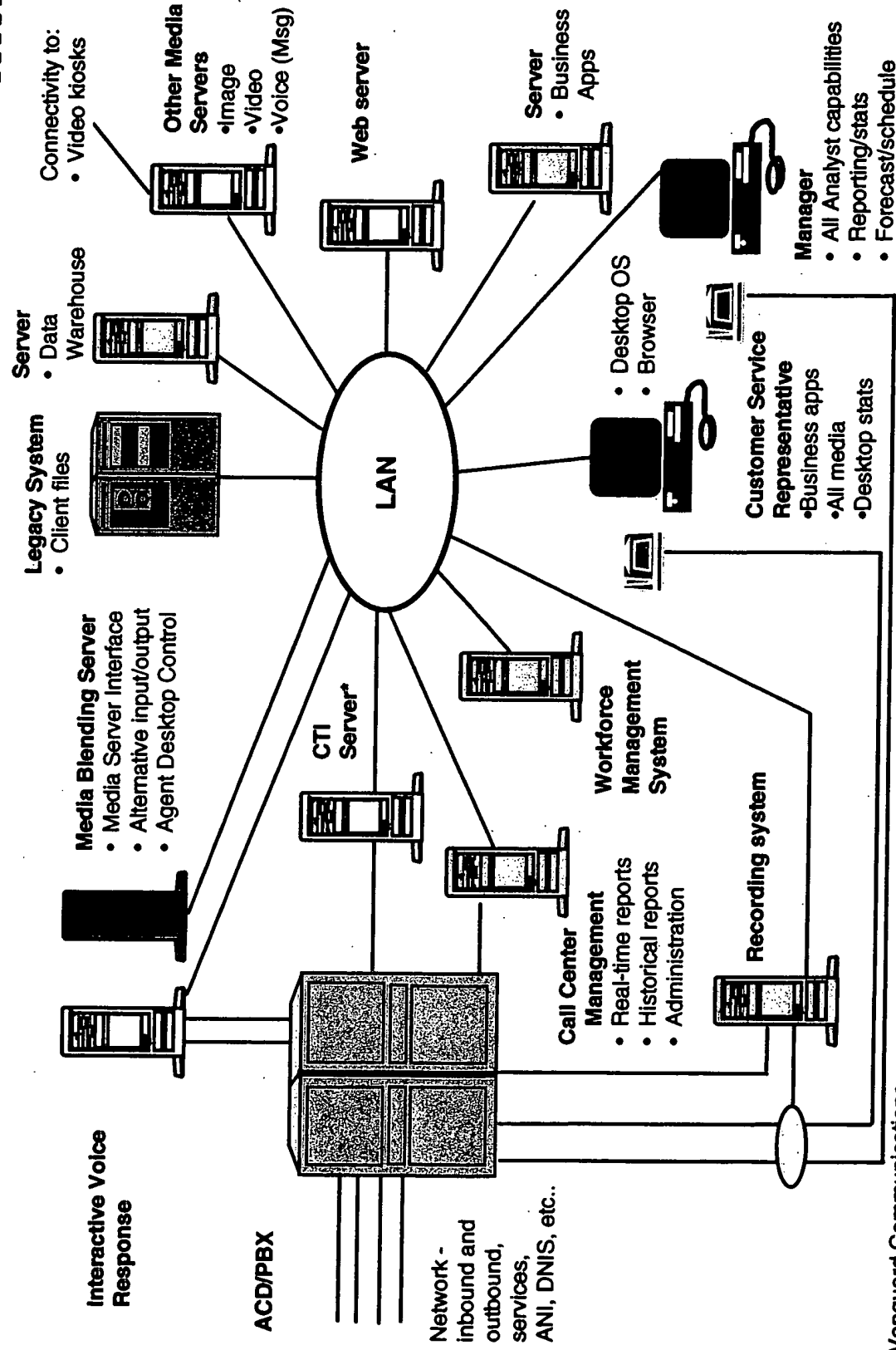


CTI Server tells ACD to Process Inbound Calls to Agent

Technology Overview

State-of-the-Art Call Center Technology Infrastructure

- Product development for the multimedia system will include in-house R&D, licensing, and customization



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Own / Control
License
Custom



Unified Queue “UNIQUE”

Call Center Solutions Business Case

March 31, 1998

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Executive Summary

Product Overview

The Unified Queue offering enables Call Center Managers to efficiently deal with and control the flow of the multiple types of media communication received from its customers.

Communication today takes many forms: fax, email, letters, and voice – multimedia call centers are revolutionizing customer service. Effectively managing the different types of media is key to the future success of a call center. For more detailed information about how Call Centers are handling the multiple streams of media today, and the value our Unified Queue offering provides, please refer to Appendix A: Multi-Media Call Center Concept of Operations.

Features and Functions

Easy to Use

Unified Queue enables Call Center Managers to quickly adjust routing preferences (by customers, by type of problem, by media type and other criteria set by the user) to the appropriate agent and monitor the wait time for customers in the queue. The easy to use tool requires no programming expertise and is designed to be used by non-technical Call Center Managers.

Single Queue

Call Center Managers will have a single queue to manage. The queue will contain all the media types received by the Call Center and be distributed to the appropriate agent based on the routing criteria established by the Call Center Manager using our Unified Queue toolkit.

Agent Desktop

Agents will be accessing Unified Queue via any standard Internet Browser that supports TCP/IP and Java applets. The agent will be responding to queries as they “pop” on his or her desktop. Assuming the agent is skilled in replying to multiple forms of media (written as well as verbal skills), the correspondence will vary.

Open Standards Based

Unified Queue is built on internationally adopted open standards. Every effort has been made to support all available open standards. Where there were competing standards, a path was chosen which would allow for later adoption of the chosen standard. It is likely that multiple standards will have to be supported for some time to come. They include but are not limited to the following:

- Server operating system: UNIX including SCO, AIX, HP-UX, and Solaris
- Client operating system: Microsoft Windows 95/97 and Windows NT
- Messaging: CORBA, DDE, OLE, MIME and COM
- Telephony interfaces: TAPI, TSAPI, JTAPI, and T-library
- Data Networking: TCP/IP and NetWare local area networks
- Databases: Oracle, Sybase, Informix, DB2 & Connectivity to CICS, VSAM, ISAM, and ODBC-compliant databases

Modular Design

Unified Queue is comprised of modules, each representing a different media type that the Call Center will be receiving from its users. The modularized approach enables a Call Center Manager to purchase only those modules that he or she needs today. As additional media is supported by a Call Center, the appropriate module can be integrated into the existing pipeline solution. Those modules include support for the following media types:

Media Type	Handled Today in Call Centers	Handled in the Future in Call Centers
Voice -- via Telephone	Customers call into a call center typically using an IVR to narrow down the skill set needed to respond to the call. Usually real-time response, and not necessarily answered by the same people that answer the other media inquiries.	Customer call into a call center typically using an IVR to assist in routing to the appropriate skill set – but now this media type is just one of many and its priority is set based on established criteria by the call center.
Voice Mail	Customers leave voice mail requesting a return call or perhaps information on his or her concern/question. Call Center agents return the calls when free time permits.	Handled pretty much the same way, accept that this media type will be blended in with the others and a priority given based on established criteria by the call center.

Email	Mailbox typically monitored by different set of folks from the help desk. Response can take days to weeks - if a response is given. Lack of consistency in responses, not trusted by most users as a viable alternative to the telephone.	Mailbox receives inquiry and returns a receipt notification message to its originator, alerting them his/her query has been received and will be responded to within X amount of time based on the size of the queue and the priority of the message.
Fax	In many instances faxes pile up until someone collects them, manually reviews them, and distributes them to the appropriate person for a reply.	Faxes would be routed into the media queue, prioritized based on criteria from the call center and routed to the appropriate call center agent.
Image	Today, letters are opened, reviewed and then routed to the appropriate person for a response. Today, this would be one of the slower means of corresponding with an organization.	Letters will be scanned and added to media queue for distribution to the appropriate call center agent. This greatly reduces the lost letter problem, since the letter is logged and can be tracked.
Web-based Forms	Forms are filled out and sent to an assigned mailbox. Someone is tasked with reviewing the forms – then responding to them/acting on them or passing them on to the appropriate person.	Handled in a similar fashion, accept they are not manually acted upon – they are included in the media queue for distribution to the appropriate call center agent.
Web-based Call Backs	Form is filled out with user's phone number and inquiry and forwarded to a mailbox. Someone is tasked with reviewing the forms – then responding to them/acting on them or passing them on to the appropriate person.	Handled in a similar fashion, accept they are not manually acted upon – they are included in the media queue for distribution to the appropriate call center agent.

Capability to Route on Multiple Criteria

A key value-added feature of the offering is the ability to prioritize incoming correspondences applying logic to determine the sequence in which the transactions will be routed to the appropriate call center agent (based on the skill set of that particular agent). The

ability to establish an unlimited number of prioritization criteria is key to enable the call center to grow and change as needed. Samples of types of criteria include:

- Product
- Skill level of Agent
- Language
- Type of inquiry
- Time of Day
- * Accessability of information
- * Cost
- * Favored Agent
- * Origin of call
- * Customer Priority - Gold/Silver Clubs etc.

Global Offering

Our offering is targeted to be utilized by Call Center supporting companies operating around the world. With that in mind, we will be supporting multiple languages and character sets. Initially our target is to support English, German and French to accommodate Sykes who has offered to be our beta client out of its Amsterdam location. While we cannot support every language in our first release, we will ensure that we structure the offering to facilitate any cultural or language requirements (i.e., double byte) that are identified in the future.

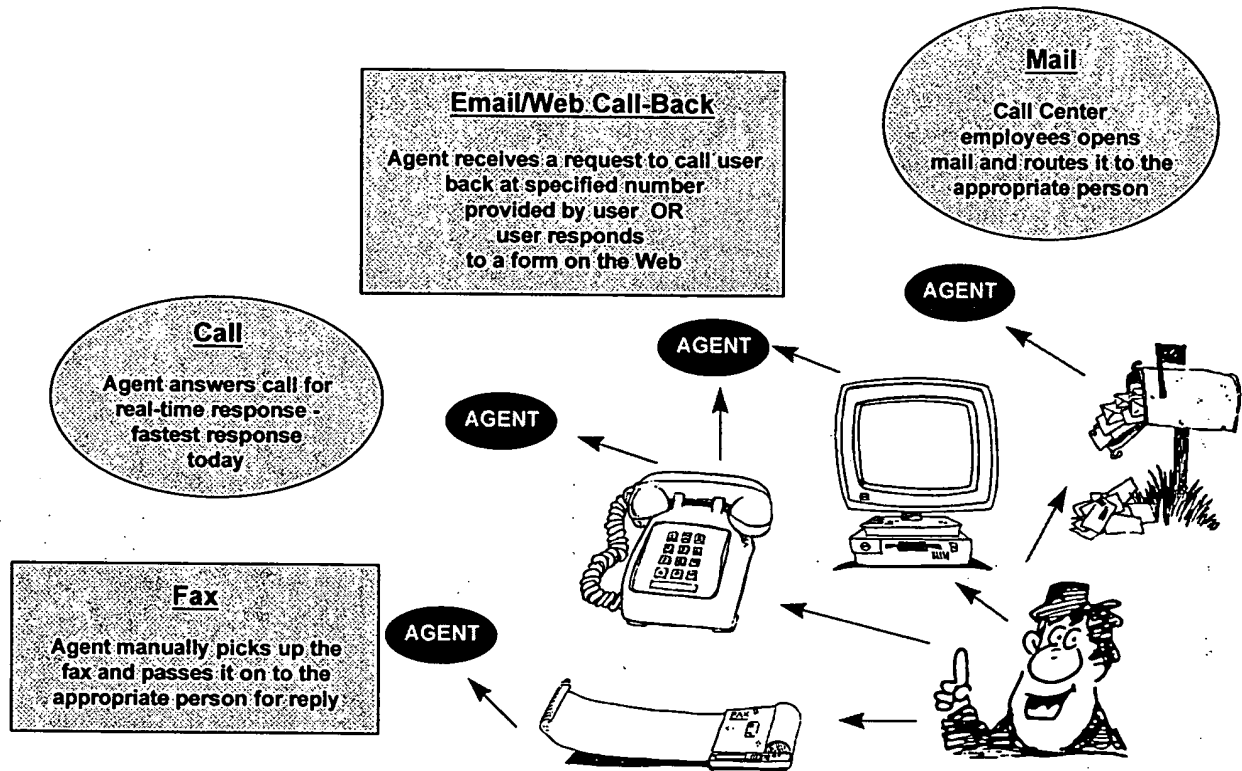
Flexible Reporting

In addition to the existing statistics provided by the Call Center, Unified Queue will provide combined reporting on all the media processed via the queue. This will provide a true snapshot of exactly how many inquiries a specific client has – rather than being limited (as we are today) to just counting the number of telephone calls received. Reporting on a daily basis provides value because it enables trends to be quickly identified and if need be, acted upon.

What value does it add?

Today, the various forms of communication media are handled individually. Each is gathered and routed to the appropriate agent for response to the customer.

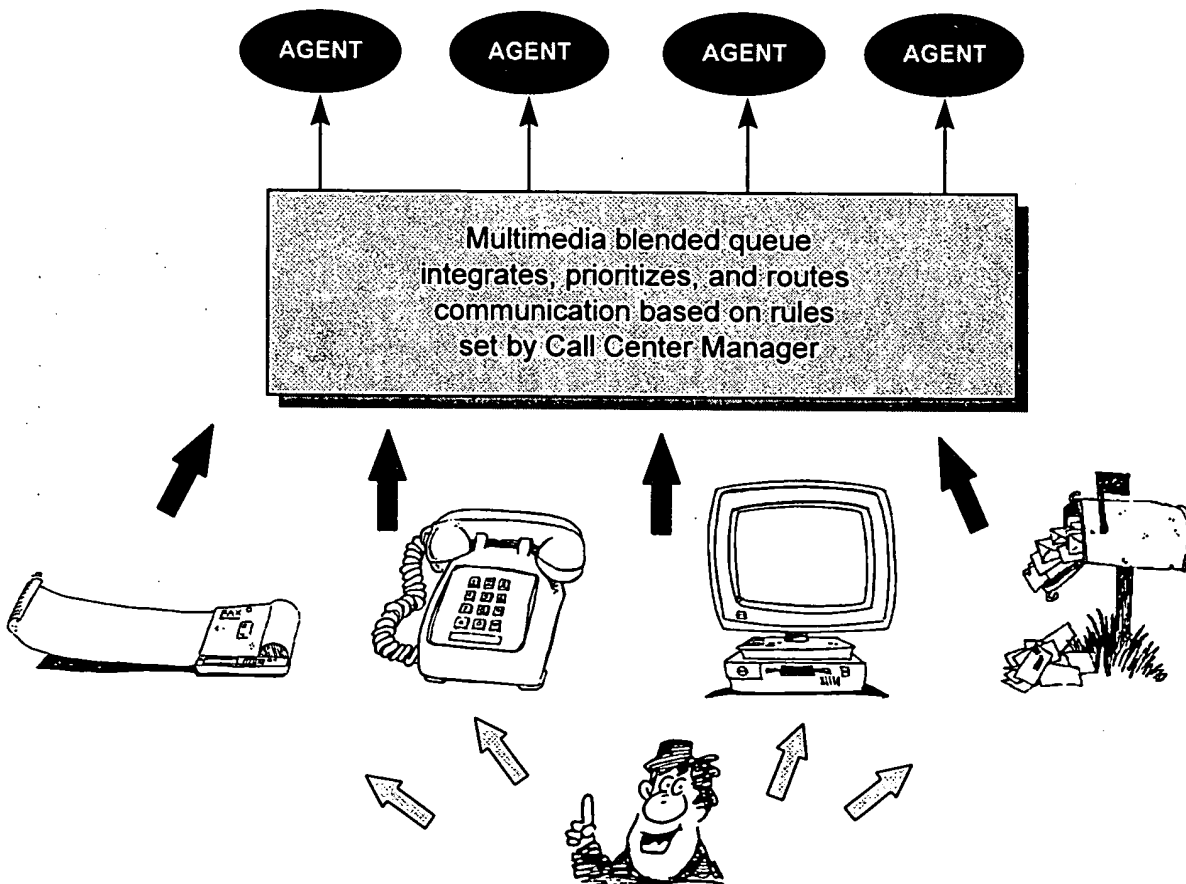
Multimedia Handling Today



Voice inquiries are typically the only media correspondence that are answered real-time, so users gravitate toward voice because of the need for a rapid response. Industry experts such as Data Monitor have predicted the rapid migration from voice inquiries toward email and Web-form inquiries with the widespread acceptance of the Internet. The key is consistently, responding in a timely manner via the other media forms. Customers must feel confident that they will receive a response within a specified timeframe (i.e., Java applet providing the approximate queue waiting time) or they will continue to utilize voice inquiries.

By funneling all correspondences into one pipeline, the customer will receive timely responses to all his or her inquiries independent of the media type. Unified Queue provides Call Centers with the means to provide that consistent follow-up to customers. It also removes the first in - first out rule, and enables Call Centers to determine what the priority is for responding to all communications.

Future Multimedia Handling



Listed below is a summary of several of the key benefits of using our Unified Queue:

Benefits	Value Provided by Microlog
Labor Savings	<ul style="list-style-type: none"> • Manual process of checking fax and letters is automated • Economies of scale in leveraging one agent pool • Customer request routed to agent with appropriate skills for and efficient response
<ul style="list-style-type: none"> • Leveraging existing systems 	<ul style="list-style-type: none"> • Open-standards based solution • Works with existing technology configuration - ensures that solution meets the customer's needs
Ease of Implementation	<ul style="list-style-type: none"> • Turn-key solution - systems integration and the technology • Works with existing partners to integrate any proprietary components
Ease of Use	<ul style="list-style-type: none"> • Single queue enables managers to track and measure all not just voice queries • Easy to set and change routing for the Call Center Manager
Customer Satisfaction	<ul style="list-style-type: none"> • Allows customers to elect which media type they prefer to • Routed to correct agent the first time for all media • Allows a call center manager to monitor and more proactively manage response times by media type • Allows call center manager to segment service levels to a customer size of one
Agent Satisfaction	<ul style="list-style-type: none"> • Increase productivity • Lower turn-over rate through variety of activity
Technology Cost Savings	<ul style="list-style-type: none"> • Leveraging the reach and power of the Internet saves money versus the traditional voice costs



Microlog's Unified Queue™ Offering *for Multi-media Call Centers*

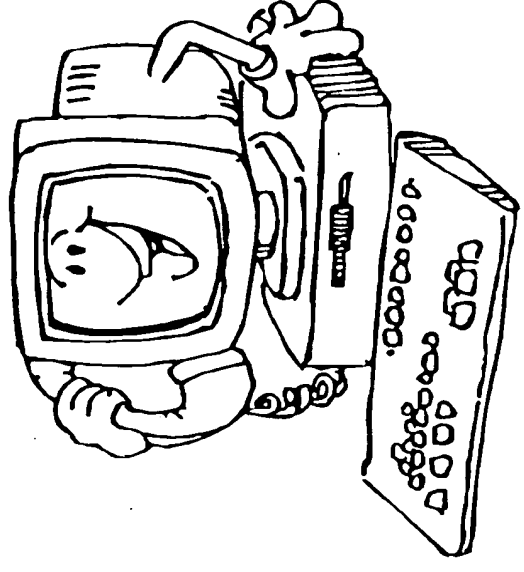
June 1998

Agenda

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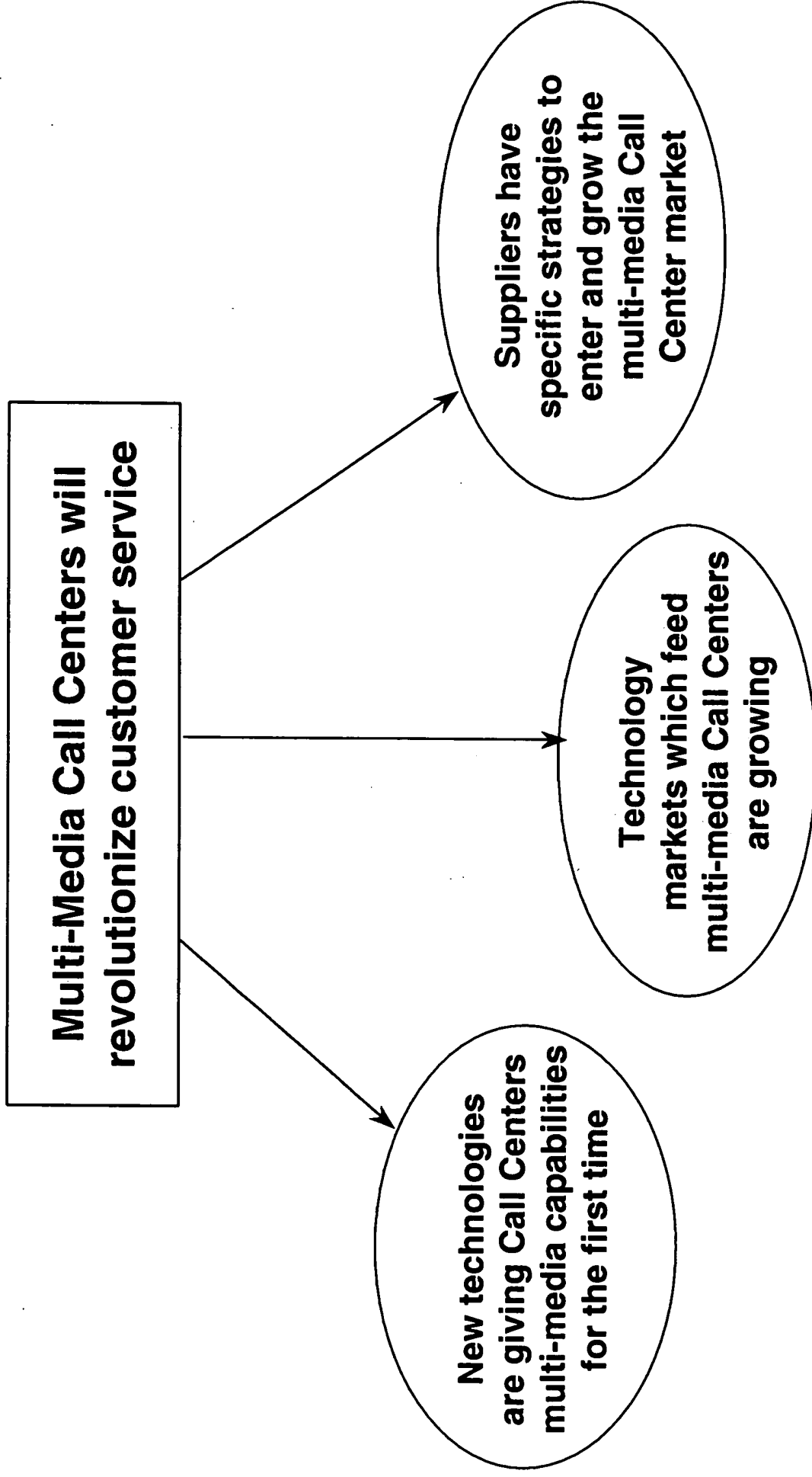
- Multimedia Opportunity

- UniQue Toolkit™



Market Trends

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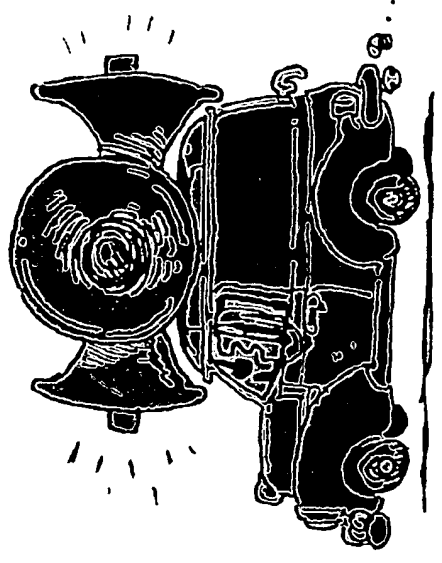
Multi-Media Call Centers

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“Within a decade, the Internet should supplant the telephone as the preferred channel for remote communications for slightly over half the working population.”

The Challenge is to:

Lower transaction costs & simultaneously improve services by moving customers to the Internet.



How Multi-Media Communications are handled today?

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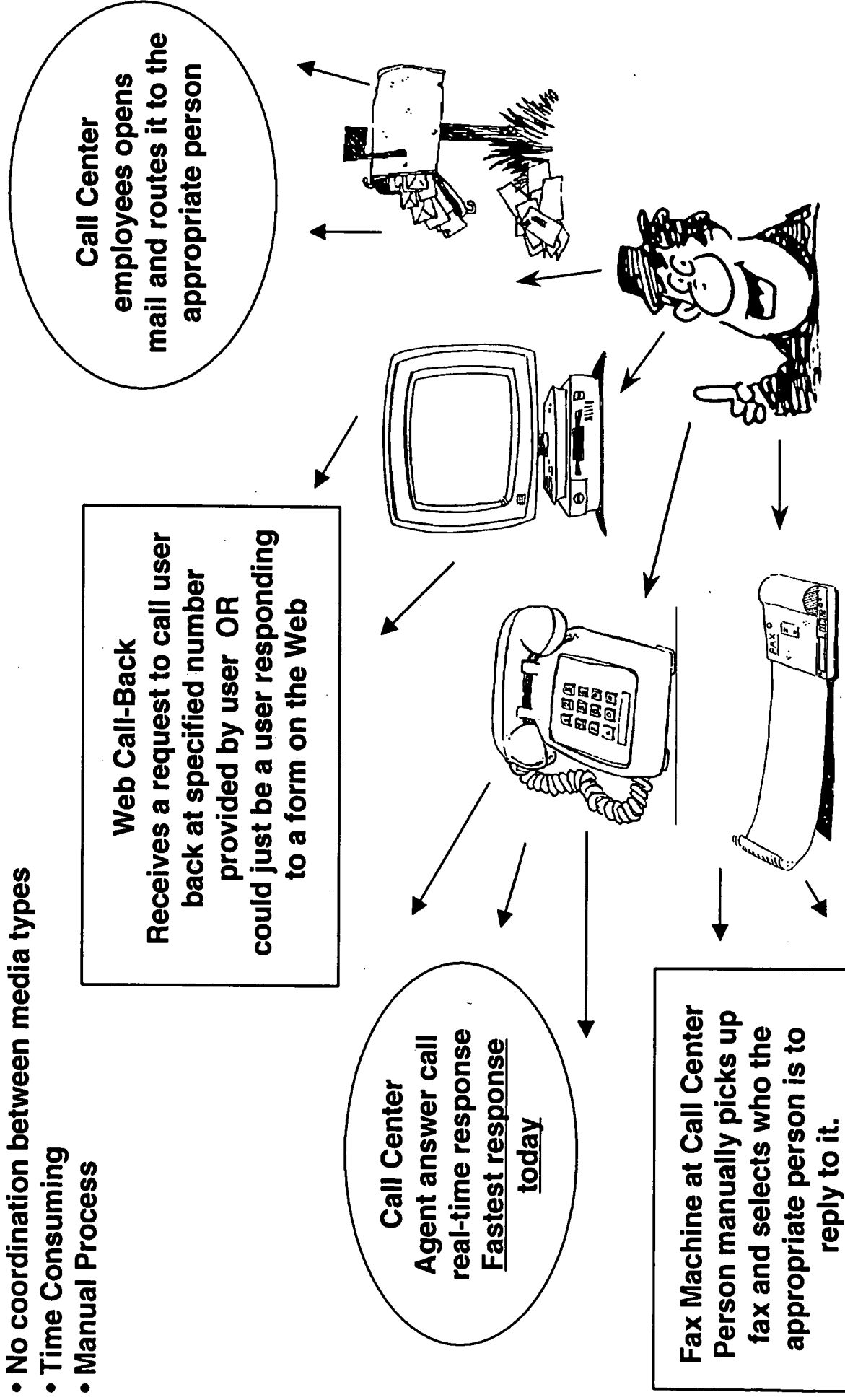
- Independent of each other
- No coordination between media types
- Time Consuming
- Manual Process

Call Center employees opens mail and routes it to the appropriate person

Web Call-Back
Receives a request to call user
back at specified number
provided by user OR
could just be a user responding
to a form on the Web

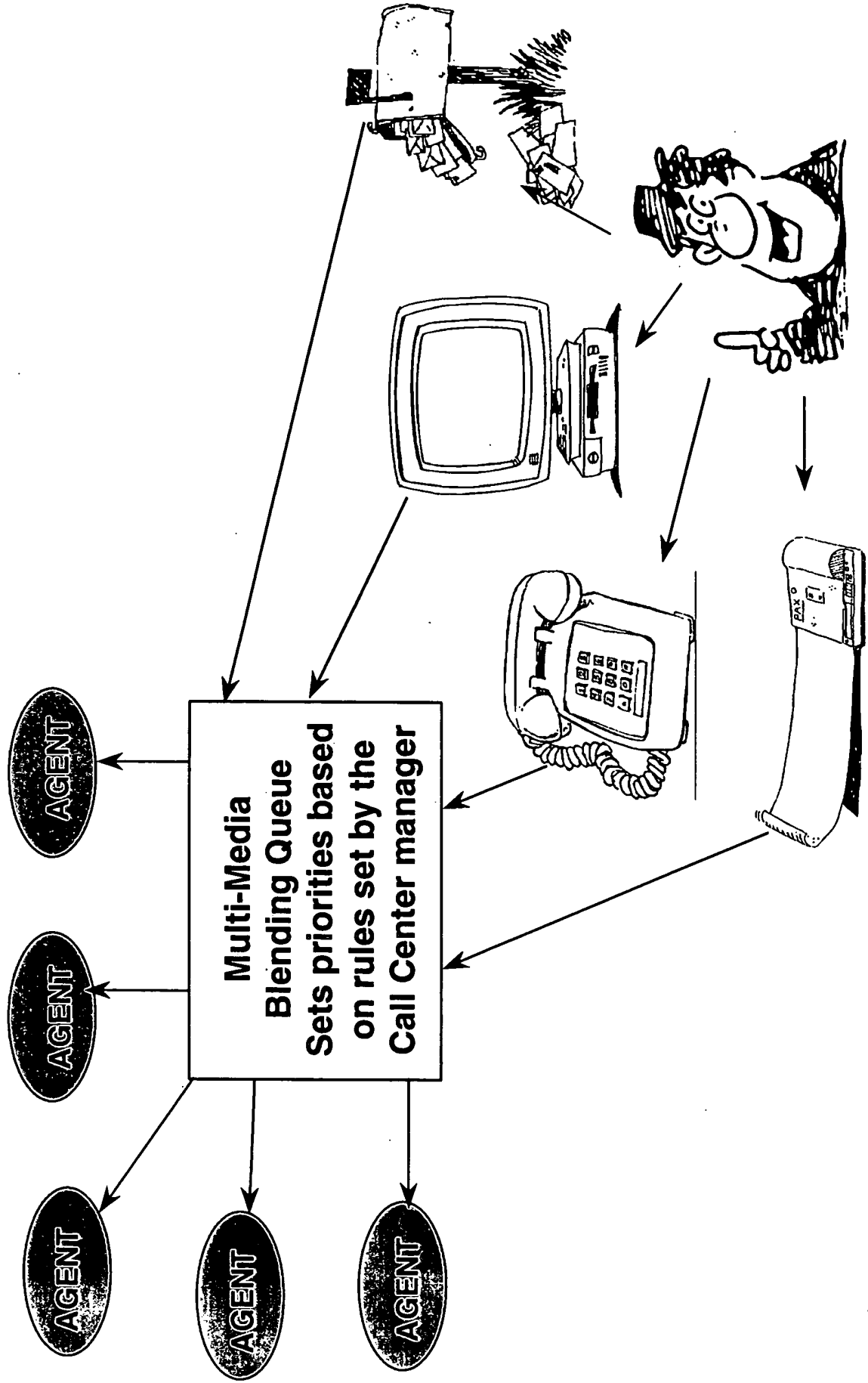
**Call Center
Agent answer call
real-time response
Fastest response
today**

**Fax Machine at Call Center
Person manually picks up
fax and selects who the
appropriate person is to
reply to it.**



How Multi-Media Communications will be handled in the future

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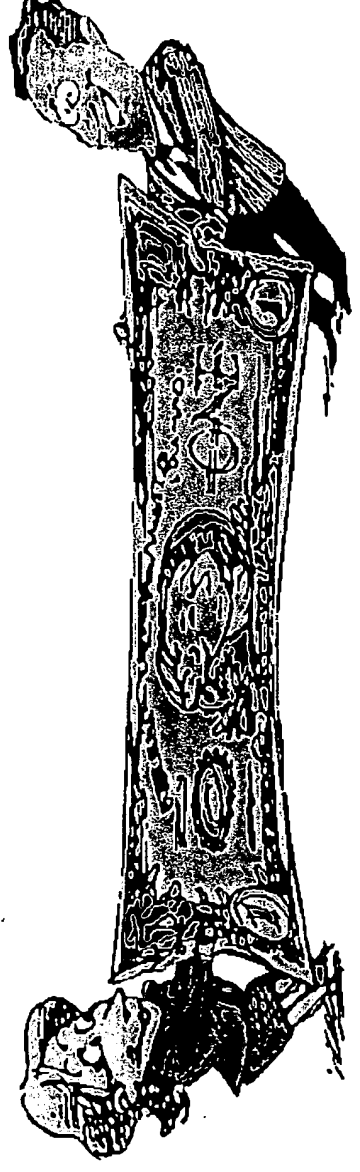
Multimedia Opportunity

Future Value Proposition

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Microlog will provide a solution for Call Centers that is comprised of easy-to-use, quality tools to enable Call Center Managers to prioritize and control the routing of all their incoming and outgoing messages, independent of their media.

This results in cost savings by leveraging the most expensive asset a call center has -- its people, while improving its responsiveness to its most important asset -- its customers.



Multimedia Opportunity

Benefits to Customer

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Benefits

Value to Customer

Labor Savings

- Manual process of checking fax and letters is automated
- Economies of scale in leveraging one agent pool
- Customer request routed to agent with appropriate skills for rapid and efficient response

Leveraging Existing Systems

- Open-standards based solution
- Works with existing technology configuration - ensures that the solution meets the customer's needs

Ease of Implementation

- Turn-key solution - systems integration and the technology
- Works with existing partners to integrate any proprietary components

Ease of Use

- Single queue enables managers to track and measure all media – not just voice queries

Customer Satisfaction

- Easy to set and change routing for the Call Center Manager
- Allows customers to elect which media type they prefer to use
- Routed to correct agent the first time for all media
- Allows a call center manager to monitor and more proactively manage response times by media type
- Allows call center manager to segment service levels to a customer size of one

Agent Satisfaction

- Increase productivity
- Lower turn-over rate through variety of activity

Technology Cost Savings

- Leveraging the reach and power of the Internet saves money versus the traditional voice costs

**Contact is Received
and Processed**

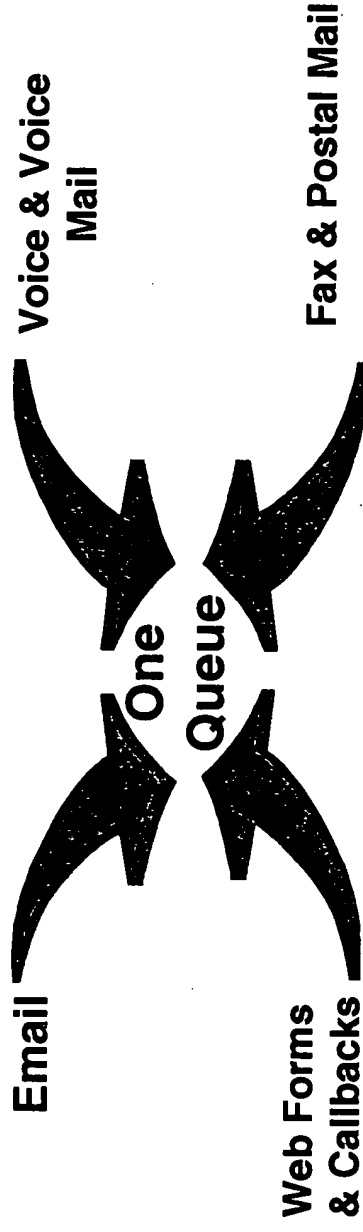


CTI Server tells ACD to Process Inbound Calls to Agent

Future Plans

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Microlog's UniQue™ (Unified Queue™) offering will leverage your existing Call Center investments, lower your operating cost, and increase your responsiveness to customers. In about twenty-five words -- here's what it will accomplish:



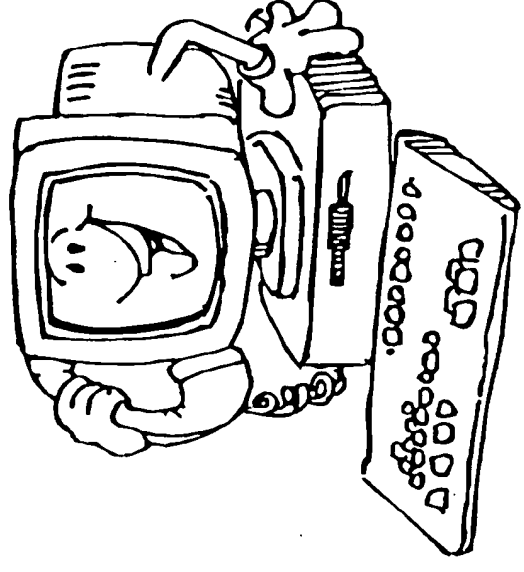
Microlog's Unified Queue™ (UniQue™) offering will provide an open-standards based, integrated, easy-to-use Call Center Solution to enable customer contacts, independent of their media to be prioritized, delivered, and acted upon by the appropriately skilled agent.

Agenda

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- **Multimedia Opportunity**

- **UniQue Toolkit™**



UniQue Toolkit

Client Components

Log In/Out, change password

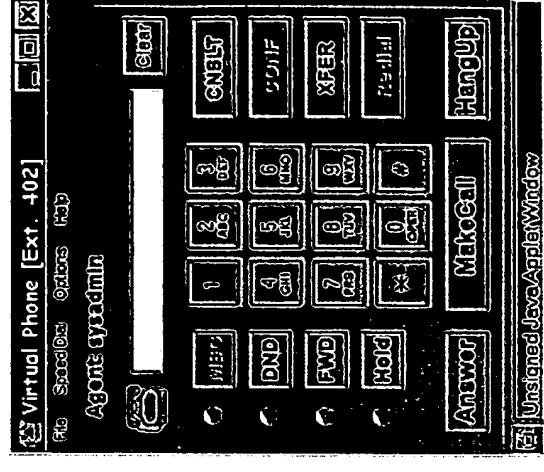
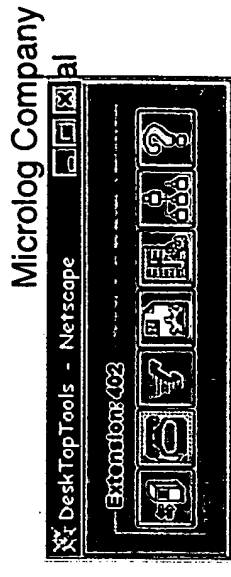
Soft Phone - Emulates the functions of a physical hand-set.

Speed Dial Admin - Enables agents to program in, or import from an electronic rolodex package their own speed dial numbers.

HTML Viewer - Provides access to the screen pop window.

Systems Administration - Allows for remote system Administration

Help - Designed in HTML to allow Call Center Managers to give agents on-line, real-time access to changing corporate information.



UniQue Toolkit™

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Highlights

- The UniQue Toolkit™ provides the functionality necessary to link the call and data together at the agent's desktop.
- Incorporating CTI and Web technology, the Toolkit provides Intranet-based Call Center functionality on the agent's desktop.
- Microlog provides an "open" alternative to organizations with a corporate Intranet who wish to leverage Intranet technology and capabilities in their Call Centers.
- Applications customized by a specific customer can be easily created using basic Web Technology, no extensive programming expertise is needed.
- The Toolkit runs on ANY platform (Windows, VMS, UNIX, MacOS, NT) that has the ability to run a Javacapable Web browser.

UniQue Toolkit™

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Highlights Continued

- The Toolkit does not reside on the agent's computer; instead, the Toolkit's client software downloaded from the Web Server on an as-needed basis.
- System administration is greatly simplified, since changes/enhancements/upgrades need be made in only one place (the Web Server) versus every agent's machine. It's also more secure than having the software dispersed on each desktop.
- Agent downtime is also reduced, to obtain the latest version of the application the agents need to simply download the new version. Increased productivity - a key savings.

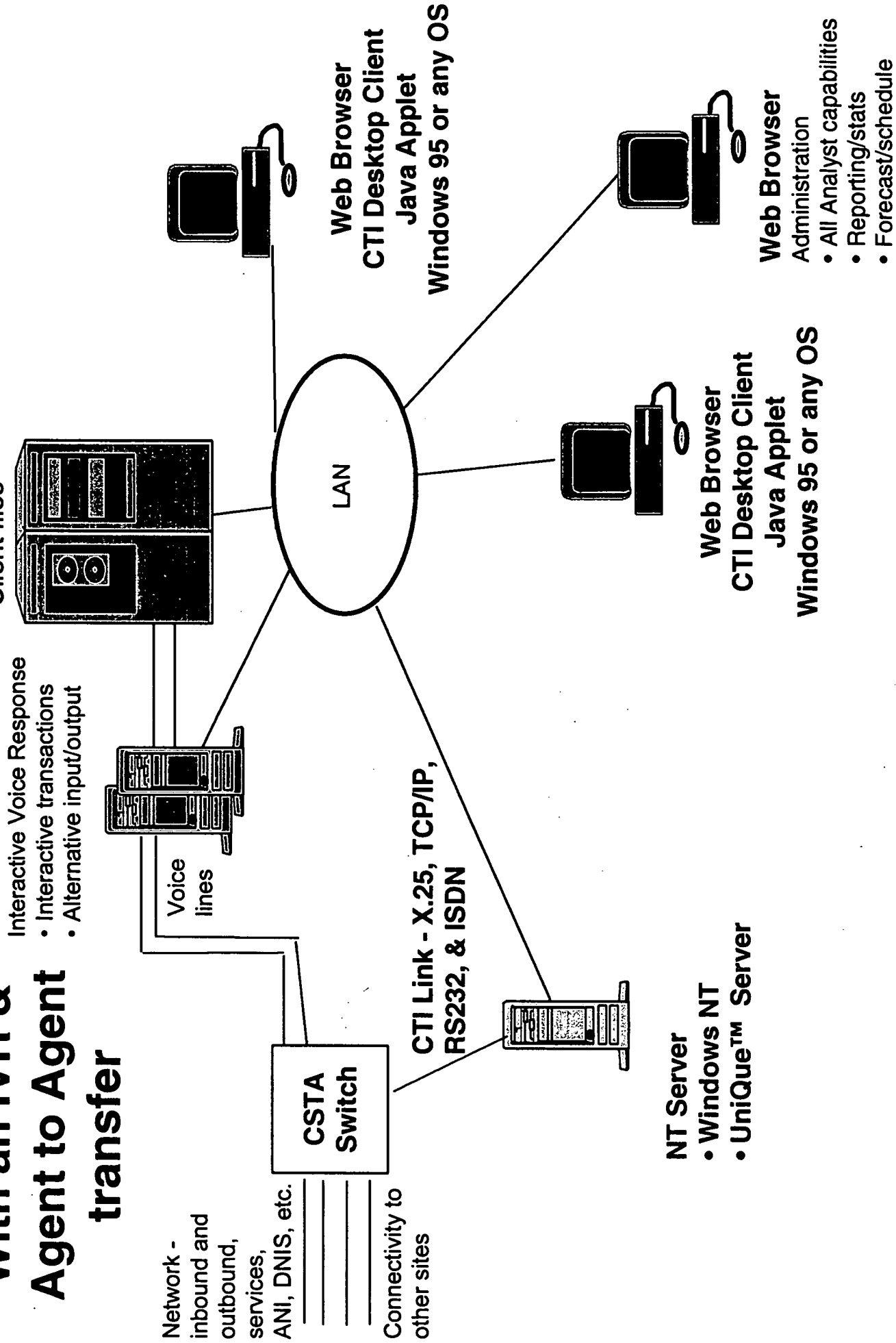


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Unique™ Toolkit

With an IVR & Agent to Agent transfer

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Why purchase our solution?

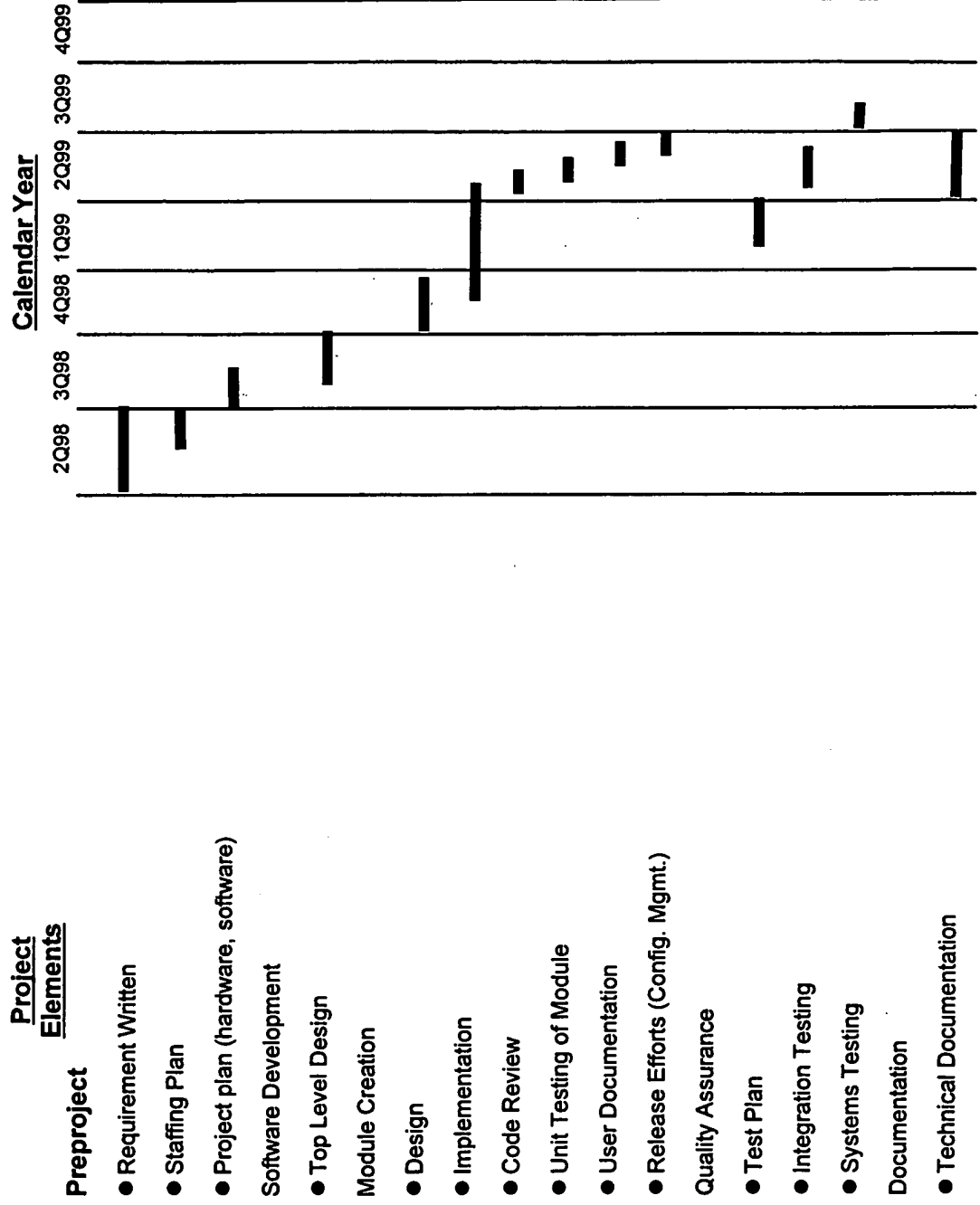
- **Based on Open Standards - Java, CGI, & HTML**
 - Several of our competitors offer a similar service utilizing Forms via the Web Browser or a screen pop via proprietary API instead of having the information populate the screen (screen pop) using Java
- **Java enables multiple windows to be open on the screen - Examples: Can open and close soft phone or have multiple Web pages open.**
 - Several of our competitors only use the Web browser which must be populated each time with the new information -- referred to as pushing pages.
- **UniQue™ communicates with CT_Connect**
- **Easy to develop applications - using HTML, does not require programming expertise.**
- **Thin Client -- Software is stored on the Server, not each individual agents' desktop.**
- **Real-time statistics are available via Live Connect - Java/JavaScript communication**
- **Sell our multi-media vision -- this is the first component in our UniQue family of Call Center Solutions.**

Appendix

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Product Development Plan, 1Q 98 - 4Q 99

- Objective: Develop and launch multimedia server





**Unified Queue
“UNIQUE”**

**Call Center Solutions
Business Case**

March 31, 1998

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Appendix B: Project Plan

Memorandum

To: Files . 37770
From: John Holmes
cc: Joseph Buczynski
Doris Hurley
Date: March 11, 1999
Re: Microlog Call Center Applications

In a telephone call yesterday, John Mears of Microlog advised me that he wishes to defer the filing of the call center application. [REDACTED]
[REDACTED] he simply does not have the personnel available to assist us with the patent application while the product is being readied for commercial release. Mr. Mears indicated that the U.S. and [REDACTED] are the primary areas in which patent protection is needed, and these rights will still be available as long as we file the application by September 21, 1999.

[REDACTED]



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August 1999

C@LL CENTER Solutions™ Honors The Call Center Product Leaders Of The Best Of CTI™ EXPO Spring '99

We are pleased to announce the Best of CTI™ EXPO Spring '99 award winners. The following companies exhibited products directly related to the call center field at CTI™ EXPO Spring '99 in Washington, D.C., which took place May 25-26. Editors from C@LL CENTER Solutions™, INTERNET TELEPHONY® and CTI® magazines, along with TMC™ Labs' engineers, met with vendors, tried out new products and sorted out the very best of CTI™ EXPO Spring '99. Judging was based on overall contributions to the call center industry. The products featured below are directly related to the call center- for a complete list of winners and product descriptions, please visit the [TMCnet.com](http://www.tmcnet.com/ctiexpo/exposp99win.htm) Web site at www.tmcnet.com/ctiexpo/exposp99win.htm.

- | | |
|---|---|
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| • Artisoft, Inc. | • Martek Global Services |
| • Aspect Telecommunications | • Melita |
| • Buffalo International, Inc. | • Microlog |
| • CellIT | • Netphone, Inc. |
| • Cincom | • Noble Systems |
| • Davox | • Nortel Networks |
| • Dictaphone | • Nuance Communications |
| • Digisoft Computers, Inc. | • PakNetX Corporation |
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- [Rockwell Electronic Commerce](#)
- [Siemens Information and Communication Networks, Inc.](#)
- [SpeechWorks](#)
- [Syntellect](#)
- [TelAthena Systems LLC](#)
- [TeleDirect](#)
- [Telegenix](#)
- [TeleSynergy](#)
- [Tornado Development](#)

Axiom Corp.

InfoBase Telesource 4.0
 Calling list database
 501-336-2309

Artisoft, Inc.

TeleVantage 2.1
 Call management system
 800-914-9985

Aspect Telecommunications

Aspect Customer Relationship Management Suite
 Customer relationship management software
 408-325-2671

Buffalo International, Inc.

OTS NT-Object Telephony Server
 Open architecture predictive dialing engine
 914-747-8500

CellIT

CCPRO
 Client/server telephony platform suite
 305-436-2300

Cincom

Cincom Encompass
 Customer relationship management software
 513-612-2300

Davox

Allbound Customer Contact Solution
 Customer contact software

Lernout & Hauspie

L&H RealSpeak
 Text-to-speech engine
 781-203-5000

Martek Global Services

Veri-A-Code
 Area code database
 301-656-3700

Melita

Melita Enterprise Explorer
 Call routing product
 800-635-4821

Microlog

uniQue
 Call queuing, routing, management, and reporting product
 301-428-9100

Netphone, Inc.

Netphone Intranet PBX (IPBX)
 IPBX
 508-787-1000

Noble Systems

Automated Telephone Organization Management System
 Outbound, inbound, ACD and blended call management product
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Nortel Networks

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